

2021



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,486	08/01/2001	Hidetoshi Fuse	1900/00032	3134

7590 08/11/2004

Connolly Bove Lodge & Hutz LLP
 Suite 800
 1990 M Street, N.W.
 Washington, DC 20036-3425

EXAMINER

BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
----------	--------------

2644

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/918,486

Applicant(s)

FUSE, HIDETOSHI

Examiner

Walter F Briney III

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 2 is objected to because of the following informalities:

- Claim 2 depends from itself

For the purpose of this action, the examiner assumes that this is a typo and that claim 2 actually depends from claim 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Moon et al. (US Patent 6,771,771).

Claim 1 is limited to a **method for canceling an echo caused by a voice signal leaking in part from a voice signal passing through a receiving line into a transmitting line**. Moon discloses an echo cancellation device (abstract; figure 2). Moon discloses that a first variable amp (200) applies a variable gain to an input signal to avoid saturation of the echo canceller (column 3, lines 11-22) (i.e. **limiting a level of**

Art Unit: 2644

the voice signal passing through the transmitting line to a level falling in a predetermined range before the leaked voice signal is cancelled). After reducing the level of the input signal an echo cancellation process is applied by a DSP (240) (column 2, lines 19-23) (i.e. **canceled the leaked voice signal included in the voice signal passing through the transmitting line).** Moon also discloses a second variable amp (270), which inverts the effect of the first variable amp so that the transmitted signal is at a proper magnitude (column 4, lines 23-26) (i.e. **restoring, to an original level of the voice signal obtained before the cancellation of the leaked voice signal, a level of a voice signal undergoing the cancellation of the leaked voice signal and passing through the transmitting line).** Therefore, Moon anticipates all limitations of the claim.

Claim 3 is a means-plus-function claim that recites means for performing all the functional steps recited in claim 1. The means cited in the rejection of claim 1 meets these limitations, and thus, claim 3 is rejected for the same reasons as claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson et al. (US Patent 6,064,873) in view of Moon.

Claim 1 is limited to a **method for canceling an echo caused by a voice signal leaking in part from a voice signal passing through a receiving line into a transmitting line**. Eriksson discloses a network echo canceller that removes signals reflected through a hybrid from a receiving signal (abstract; figure 4). While Eriksson discloses performing non-linear processing to remove excess noise and tone detection to disable all of the echo canceller's functions in the presence of a 2100 Hz modem tone, Eriksson does not provide any support for high-level input signals that might saturate the echo canceling process thus lowering the ability to perform good echo cancellation. Therefore, Eriksson anticipates all limitations of the claim with the exception of **limiting a level of the voice signal passing through the transmitting line to a level falling in a predetermined range before the leaked voice signal is cancelled**. Moon teaches an echo canceling process that includes scaling an input signal to an operable range of the digital echo canceller to avoid saturation, which causes poor performance (column 1, line 47-column 2, line 24). Moon follows the input scaling with an echo cancellation process (column 2, lines 19-23) (i.e. **canceling the leaked voice signal included in the voice signal passing through the transmitting line**) and a restoration of the resulting echo-cancelled signal (column 4, lines 23-26) (i.e. **restoring, to an original level of the voice signal obtained before the cancellation of the leaked voice signal, a level of a voice signal undergoing the cancellation of the leaked voice signal and passing through the transmitting line**). It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the input level scaling as taught by Moon to prevent the echo canceller of Eriksson from

saturating, and thus, enhancing echo performance even in the presence of a noisy input signal.

Claim 2 is limited to **the method of claim 1**, as covered by Eriksson in view of Moon. As briefly mentioned in the rejection of claim 1, Eriksson includes a tone detector (figure 4, elements 122, 124) that disables all echo canceller functionality in the presence of a 2100 Hz modem/fax tone (column 4, lines 54-57) (i.e. **determining whether or not either one of facsimile communication and communication on modems through the transmitting line is detected**). Because the input level scaling and the subsequent restoration of the input signal's level is a portion of the echo canceller taught by Moon, they would inherently be disabled when the tone detectors of Eriksson detect a 2100 Hz modem/fax tone. If they were not disabled they would inject undesirable noise and serve no purpose because the echo canceller function, for which they are needed, is not even operating (i.e. **stopping the cancellation of the leaked voice signal, the limitation of the level of the voice signal, and the restoration of the level of the voice signal**). Therefore, Eriksson in view of Moon makes obvious all limitations of the claim.

Claims 3 and 4 are means-plus-function claims that recite means for performing all the functional steps recited in claims 1 and 2, respectively. The means cited in the rejections of claims 1 and 2 meet these limitations, and thus, claims 3 and 4 are rejected for the same reasons as claims 1 and 2.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 703-305-0347. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB
8/5/04

2

XU MEI
PRIMARY EXAMINER